

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
17 March 2005 (17.03.2005)

PCT

(10) International Publication Number
WO 2005/024727 A2

(51) International Patent Classification⁷: **G06T 15/40**

(21) International Application Number:
PCT/EP2004/052059

(22) International Filing Date:
6 September 2004 (06.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
MI2003A 001719 8 September 2003 (08.09.2003) IT

(71) Applicant (for all designated States except US): **PO-LITECNICO DI MILANO** [IT/IT]; Piazza Leonardo da Vinci, 32, I-20133 Milano (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **TUBARO, Stefano** [IT/IT]; Via PELLE, 21, I-28100 Novara (IT). **SARTI, Augusto** [IT/IT]; Via Solferino, 125, I-20038 Seregno (MI) (IT). **FOCO, Marco** [IT/IT]; Via C. Marx, 345/C, I-20099 Sesto San Giovanni (MI) (IT).

(74) Agent: **MITTLER, Enrico**; Mittler & C. s.r.l., Viale Lombardia, 20, I-20131 Milano (IT).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

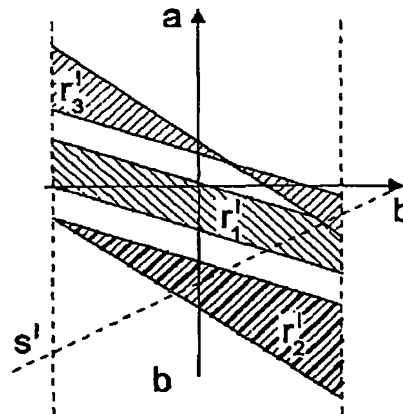
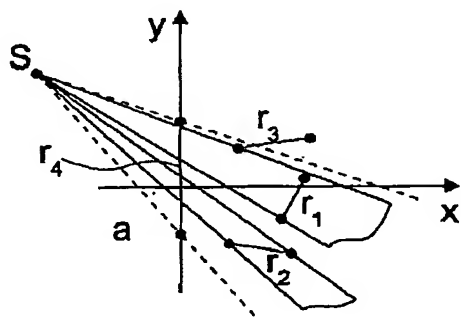
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designation US
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designation US
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designation US
- of inventorship (Rule 4.17(iv)) for US only

Published:

- without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: METHOD FOR DETERMINING REFLECTIONS IN AN AREA.



(57) Abstract: The present invention refers to a method for determining reflections in complex environments, by means of ray tracing. For ray tracing it is necessary to determine the region of visibility between at least a first reflector and a second reflector by means of the following phases: representing said first and second reflector in a system of coordinates (x, y, z); said method is characterised in that it further comprises the phases of: carrying out an affine transformation of said system of coordinates (x, y, z); determining the region of visibility of said second reflector in relation to said first reflector as the set of the parameters of the straight lines that link a generic point of said first reflector with a generic point of said second reflector.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.